

Yu teaches this step in column 5, lines 14-33. The Examiner states that it would have been obvious to “modify Hale et al.’s method to include validating and correcting the accumulated data as taught by Yu et al., in order to calibrate disk drive performance based on real time performance monitoring.” These claim rejections are respectfully traversed.

The present application is directed to an improved method for measuring system performance in a mass storage system. The storage system includes a plurality of disk drive storage elements controlled by a disk drive controller. The controller receives commands and data from and returns at least data to a plurality of host computers. The method includes the steps of (a) executing at at least one host computer a test request by sending commands to the mass storage system, (b) accumulating at at least the executing host computer data regarding performance of the mass storage system in response to the requests sent by the host computer, and (c) processing the accumulated data regarding the performance of the mass storage system in response to the host generated commands. The processing comprises validating and correcting, as required, the accumulated data. Validating data as used herein means checking the data for errors. As a non-limiting example described in the specification, validation can feature checking individual data points for errors by applying predetermined decision criteria to the data points. Thereafter, the data can be corrected, as required.

Yu discloses a method of calibrating a disk drive based on measurements of the performance of the disk drive. A measured “performance characteristic” is compared to a reference value. If there is a sufficiently large difference, a “performance parameter” is updated and used in operating the disk drive. It appears that the Examiner is taking the position that Yu’s “performance parameter” is the accumulated data regarding the performance of the mass storage system recited in Claim 1. And it appears that the Examiner is contending that Yu’s disclosure of updating performance parameters is Claim 1’s validating and correcting, as required, the accumulated data. Both such contentions, however, are clearly incorrect.

In the passage cited by the Examiner, Yu states:

The system determines whether a data stream is in process 308. If a data stream is in process 310 (system not idle) and performance characteristics are in an acceptable operating range, calibration is determined to be unnecessary and will be delayed until at least the next scheduled measurement. However, if the measurement of performance characteristics are outside of design specifications for the performance parameters of the disk drive, a calibration is scheduled but execution is delayed until a data stream is not in process, i.e., the system is idle 312. Then, performance parameters stored, e.g., in memory or on the disk itself, are updated with the newly calibrated values in response to the comparison 314. For example, if the measured signal or performance characteristic (e.g., runout) is worse than the reference characteristic, then the stored performance parameter (i.e., RRO cancellation in this example) is replaced with a new performance parameter. Finally, the drive operations are carried out in accordance with the updated performance parameters 316. (col. 5, lines 14-33).

Yu's *performance parameters* are different from Yu's measured *performance characteristics*. Examples of performance parameters described in the reference are RRO cancellation (col. 5, lines 29-30) and seek velocity (see Fig. 5). These performance parameters are provided; they are not measured data on system performance accumulated in response to test requests. The *performance characteristics*, on the other hand, are measured data. The reference states that "one such performance characteristic that may be measured is runout." (col. 4, lines 55-56). Yu, however, does not disclose or in any way suggest processing the performance characteristics by validating and correcting, as required, this data. As noted above, validating data as used in the present application means to check the data for errors. As a non-limiting example described in the application, validation can feature checking individual data points for errors by applying predetermined decision criteria to the data points. Thereafter, the data can be corrected, as required.

Thus, even if Yu's performance characteristics are considered accumulated data on the performance of a mass storage system, they are not validated or corrected. Nor

does the reference provide any suggestion for doing so or even recognize any need for doing so.

Moreover, Yu's performance parameters are clearly not accumulated data on the performance of a mass storage system, much less data that is validated or corrected. Nor does the reference provide any suggestion for this.


Yu, therefore, does not in any way disclose or suggest processing any accumulated data regarding the performance of the mass storage system by validating and correcting, as required, said accumulated data.

As the Examiner has stated, Hale also does not disclose processing the accumulated data regarding the performance of the mass storage system in response to the host generated commands, the processing comprising validating and correcting, as required, the accumulated data. Therefore, even assuming that the Examiner's combination of Yu and Hale is proper under §103, which is doubtful since there is no suggestion for making it, the combination does not teach each and every limitation of the claims as required for a rejection under §103.

Claim 1 is therefore allowable over the combination of the Hale and Yu references. Claims 2-5 are dependent on Claim 1 and are similarly allowable.

Claims 1-5 are pending in the present application. As the application is now believed to be in condition for allowance, issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,



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